

Correspondence

The correlation between rates of unemployment and suicides rates in Japan between 1984 and 2003

To the editor,

In Japan, suicide is defined as an act in which people contemplate killing themselves: they fully understand that their actions will most probably result in death and take some action to end their lives.¹ The number of suicides in Japan has increased from approximately 22,000 per year between 1988 and 1997 to over 30,000 per year since then, and this increase has become one of the most important problems in Japan.² The highest ever number of suicides among Japanese was 34,427 in 2003. The unemployment rates in Japan have increased rapidly since 1998. In Japan, Yoshioka has reported a large-scale study of suicide covering seven years from 1989 to 1995.³ According to his report, economic difficulties, which include unemployment problems, are an important factor contributing to the increase in the suicide rates. On comparing with other related studies, this study provides a more detailed and long-term correlation between unemployment rates and suicide rates in Japan.

We examined the number and rate of suicide committed throughout Japan between 1984 and 2003 in cooperation with the national police agency. Further, we investigated the unemployment rates throughout Japan during the same period in cooperation with the Department of Work.

We focused on the correlation of annual suicide rates in Japan with the annual unemployment rates between 1984 and 2003. The statistical analysis was performed using single regression analysis and Fisher's exact test.

During the test period, the number of males and females who committed suicide was 348,973 and 168,868, respectively, giving a male/female ratio of approximately 2:1. The annual suicide rates by sex were 28.5 males and 13.3 females per 100,000 ($P < 0.05$) (Table 1a).

Annual suicide rates in males correlated significantly with the annual unemployment rates in Japan: $r(20) = 0.94$, $F_{(1,18)} = 138.75$, and $P < 0.001$. However, the rates in females did not correlate with unemployment rates: $r(20) = 0.44$, $F_{(1,18)} = 4.23$, $P = 0.05$ (Tables 1a and 1b).

Therefore, we conclude that the unemployment rates are an important factor that is significantly relevant to the increase in suicide rates in males. It is considered that under high unemployment rates, people experience more stress. It should be noted that suicide appears to be less related to the level of unemployment than to the change in an individual's situation from employment to unemployment. The risk of suicide increases when people lose their jobs. Orihara et al.⁴ showed that the recent situation of economic structural depression is a difficult one, but we should review the antisocial solution measure that seems to be given that people live for desired. Effective preventive intervention of suicide related to the loss of the first job has not yet been reported in Japan.⁵ However, it is clear that psychosocial health care should be a part of occupational affairs administered by the medical staff in an attempt to prevent suicide.⁶

Table 1a
Annual suicide rates in Japan from 1984 to 2003: (/100,000 population)

Year	Total	Male	Female
1984	20.5	27.9	13.2
1985	19.5	26.3	13.0
1986	21.0	27.6	14.6
1987	20.0	26.3	13.9
1988	19.3	24.7	14.1
1989	18.2	22.8	13.8
1990	17.3	21.6	13.1
1991	17.0	21.7	12.4
1992	17.8	23.5	12.4
1993	17.5	23.6	11.6
1994	17.3	23.7	11.2
1995	17.9	24.2	11.8
1996	18.4	25.0	12.0
1997	19.3	26.6	12.4
1998	26.0	37.2	15.3
1999	26.1	37.9	14.7
2000	25.2	36.6	14.2
2001	24.4	35.6	13.7
2002	25.2	37.1	13.9
2003	27.0	40.1	14.5

Table 1b
Annual unemployment rates in Japan from 1984 to 2003

Year	Total	Male	Female
1984	2.7	2.6	2.7
1985	2.6	2.6	2.7
1986	2.8	2.8	2.9
1987	2.8	2.8	2.7
1988	2.4	2.4	2.5
1989	2.2	2.2	2.2
1990	2.1	2.0	2.2
1991	2.1	2.0	2.3
1992	2.2	2.2	2.3
1993	2.6	2.5	2.8
1994	2.9	2.9	3.0
1995	3.2	3.2	3.3
1996	3.3	3.3	3.4
1997	3.5	3.5	3.5
1998	4.3	4.4	4.2
1999	4.7	4.9	4.5
2000	4.7	4.9	4.5
2001	5.2	5.3	4.9
2002	5.4	5.6	5.1
2003	5.1	5.3	4.8

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